CITIZEN ADVISORY COMMITTEE RETREAT

ISSUE G – MERCURY REDUCTION REQUIREMENTS: The schedule and stringency of mercury emission reductions required of the four major electric utilities.

SUMMARY OF PUBLIC COMMENT:

Wisconsin Utilities Association - We think it's a good idea to reduce the level of mercury in the environment and we are willing, as an industry, to support reasonable state rules for reducing mercury from coal-fired electric generating plants. We support rules that bridge the gap before federal mercury rules are proposed. We support Wisconsin being a leader in taking actions that will result in environmental improvement. We don't support the proposed rule package. We support reducing mercury emissions and that's why the WUA members and Dairyland Power Cooperative (DPC) stated a commitment to work with the Department in developing state rules, and last December proposed cutting mercury emissions by 10 and 40% over the next 10 years.

City of Manitowoc - The 30, 50, 90% mercury emissions reduction rule employed over a course of 15 years would severely hamper the growth of the State of Wisconsin and the quality of life for our people. Such a rule could well force the shut-down of existing solid-fuel plants as well as make utility developers think twice about building new generation in our state. Public and private utilities have banded together to work with the DNR regarding this matter and have come up with a voluntary solution to at least a portion of the mercury emissions problem. The City of Manitowoc and the Manitowoc Public Utilities support a workable mercury program that would employ a two (2) step reduction process resulting in a 1 0% reduction over 5 years and a 40% reduction over 10 years. I believe that the voluntary reduction program would be good for the State of Wisconsin as we await the federal regulations on mercury emissions that are to be proposed by the US EPA in 2003 with final rules coming in 2004.

Sierra Club – The department must maintain an aggressive approach to reductions. It is reasonable to put the ultimate goal at 90% reduction by 2010, with interim goals and review along the way.

Forest County Potawatomi Community - The FCPC believes that the DNR should identify sources that are likely to have a more localized impact (e.g., non-combustion sources generating large particulate emissions) and develop appropriate requirements and emission standards for such sources. FCPC suggests that these sources be required to conduct appropriate air deposition modeling and demonstrate that their mercury emissions will not adversely impact the local environment. Furthermore, in addition to the ambient air concentration limits, the DNR should consider establishing a limit on the amount of mercury deposition that may occur within a specified distance of such sources.

FCPC also believes that the rule should require all new or modified sources shown to have a localized impact to obtain emission offset credits from the locally impacted area around the source. This would ensure that there is no net increase in mercury deposition in these locally impacted areas. If sufficient offset credits from the affected area are not available then the source should be required to obtain offsets at a greater ratio (e.g., 2 to 1 or 3 to 1).

Wisconsin Electric Cooperative Association - The proposed NR 446 is one of the most expensive, least effective, and least science-based rules ever promulgated by the Department of Natural

Resources. It is terribly expensive, and will not significantly reduce mercury in the environment. The Natural Resources Board should reject this rule.

Wisconsin Paper Council - While we would all like to reduce mercury fish advisories, it appears that there is little that Wisconsin, acting alone, can do to accomplish this goal. We urge the DNR to defer action on NR 446 and to work closely with EPA and other federal officials to develop a national approach that will be more environmentally beneficial, will avoid potentially conflicting regulations, and will hopefully be less costly than independent state action.

We are willing to work with the Department to help develop a voluntary reduction strategy that will improve the quality of Wisconsin's waters, while avoiding the problems that we have identified.

Citizens' Utility Board - The Citizens' Utility Board (CUB) registers its support for proposed AM-27-01, a rule to regulate air borne mercury emissions from fossil fuel powered electric generating facilities in Wisconsin.

CUB recognizes the potential for adverse rate impacts as a result of this rule. However, given the severity of the adverse consequences to the general population as a result of exposure to air borne mercury pollution, we strongly support the proposed rule, which establishes a phased approach to reduce mercury emissions by 90% over current levels within fifteen years. We believe that to do anything less would constitute an irresponsible approach to protecting human health and the environment.

Wisconsin Electric - supports one or more of the alternatives that were appended to the proposed rule package after the NRB authorized the Department to move forward with public hearings and comment period. We support a mandatory program which would require 10 and 40% reductions from utility sources over five and ten years, respectively. This program would not require emission offsets for new or modified sources, but would instead feature a case-by-case mercury control requirement. The 10 and 40% reduction levels would constitute the base program. Additionally, a source could opt out of these reduction requirements in exchange for developing and reaching a binding agreement with the Department on a multi-emission program alternative. Mercury reductions would need to be an element of the multi-emission agreement.

Wisconsin Electric opposes the rule package as drafted for four main reasons:

1. The controls and cost basis for the rules is incomplete and contains significant errors and omissions.
2. An effort to model and/or quantify the environmental benefit of the proposed rules, or an approximation of environmental impact, is absent from the supporting record.
3. The timing and level of reduction requirements will jeopardize our ability to develop an integrated, multi-emission plan. As a result, our Wisconsin system will not be optimized for either emission reductions or control equipment capital expenditures.
4. The strategy for promoting and leveraging the rules to support a state leadership position is undefined, and the mechanisms to assure that early state reductions are applied to the pending federal mercury control standard for utility sources are also undefined.

The proposed mercury rule does not expressly contain as a compliance option an alternative multi-emission reduction plan. An integrated multiple emissions approach considers the interrelationships and co-benefits of combining various control technologies to achieve optimum reductions of NO_x, SO_2 and mercury, without creating other negative environmental impacts, such as a need to landfill fly ash. Additionally, the 30% utility system reduction requirement contained in the first phase of the rule would preclude development of such plan for Wisconsin Electric because it would drive restrictive technology decisions and require ash to be landfilled rather than beneficially re-used.

The proposed rules assume a single technology path. The rules are based on progressively installing sorbent injection on each utility boiler in the state. Instead, the rules should encourage the development of mercury-reduction technology. A phased approach that sets an initial reduction level based on the co-benefits of anticipated control technologies for other pollutants, followed by a more stringent level is a more reasonable alternative and fits within the desire to encourage technology development without negatively impacting state energy supply. We agree that the proposed averaging and trading provisions are critical during both stages because of the impossibility of achieving a uniform level of control at all plants.

Wisconsin Electric has serious concerns about ash contamination resulting from installation of mercury controls. Minimizing, and even reversing, the magnitude of ash landfills is a primary environmental goal for the company. However, at this stage of mercury controls development there are many unanswered questions about ash impacts. Technologies that rely on the flue gas injection of carbon-based sorbent for mercury capture are expected to severely impact fly ash markets and also increase the need for new landfills.

Alliant Energy - The reasonable solution to reducing mercury emissions in Wisconsin is beginning with a feasible and realistic first step. We continue to strongly support the recommended alternative of 10 percent and 40 percent reductions in five and ten years respectively, which would then be followed by alignment with the upcoming federal legislation. This approach is a good compromise for all stakeholders involved, allowing mercury emission reductions to be addressed most equitably as a regional and national issue.

Wisconsin's Environmental Decade - The DNR proposed rule requires utilities to reduce their emissions 90% in 15 years, which means by the year 2017 (as opposed to 2015). Federal, bipartisan bills are calling for 90% mercury reductions from power plants by 2007. At each of the reduction phases, there is an evaluation period, giving the DNR and utilities ample opportunity to adjust the reduction schedule if needed. The timeline for making 90% reductions should be amended to 2010. The flexibility in compliance options makes this reasonable.

Stora Enso - SENA shares the DNR's and the public's concerns about increasing mercury levels in Wisconsin's waters. However SENA is very concerned that NR 446 as proposed has the potential to have a huge impact on the economic growth and development in Wisconsin with little if any environmental benefit. The proposed rule has the potential to significantly impact SENA's Wisconsin facilities both directly and indirectly. The proposed rule will directly impact our power boilers and chemical recovery furnaces and the setting of a mass cap limits has the potential to cap our pulp and papermaking processes and prevent economic growth and development. The proposed rule will indirectly impact our facilities through higher purchased power costs. As a result of these direct and indirect impacts, SENA's Wisconsin facilities may not be able to remain competitive in a global marketplace. Wisconsin should allow the Federal mercury rulemaking efforts to take 'shape" before moving forward and establishing a Wisconsin-only regulation.

Wisconsin Manufacturers and Commerce – WMC supports the voluntary program option in the rule package sent to public hearing. WMC recommends that such a program be based on the program run by the State of Minnesota and the Minnesota Pollution Control agency. The combination of court-ordered federal regulations in the pipeline and a problem we cannot fix on our own requires a measured policy approach. Such an approach would take advantage of what we know we can do voluntarily without threatening electric reliability or increasing electric rate by billions of dollars.

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WUA Report on Cost/System Impacts of Proposed NR 446 - draft

Implementing the three phases of proposed NR 446 will cost Wisconsin power providers, and thus, ratepayers, well into the billions of dollars. This is due to the necessity of installing yet-unproven control technologies, premature retiring of certain coal-fired generating units, power replacement costs associated with equipment construction and retrofitting and construction of natural gas infrastructure to replace coal as a fuel source. The following is a listing of the cost impact on each of the affected major sources, as filed with PSC or DNR during the comment process:

We Energies – "…in today's dollars the proposed rule package would add more than $3.3 billion to the cost of energy delivered to Wisconsin Electric's customers". PSC

We Energies – "The potential cost impact on the existing and planned Wisconsin Electric generation portfolio is in the range of $1.4 to $3.3 billion, in 2001 dollars. By comparison, Wisconsin Electric's current total revenue requirement for its electric utility operating in Wisconsin is approximately $1.5 billion. The range includes the cost of switching major portions of Wisconsin Electric's generating fleet to natural gas through significant investment in new gas plant or purchased power (up to $2.9 billion), plus the cost of installing, operating and maintaining new mercury control equipment and the cost of mercury offsets (if available)". DNR

Alliant – "The present proposal lacks information on the rate of change in the deposition of mercury, the change in critical environmental indicators, and any measure of the anticipated impact of any reduction of emissions on the critical environmental indicators. Without such information, no reasonably accurate analysis of costs and benefits can be performed. (sic) However, given the limited data and all of the above uncertainties and recognizing that more knowledge will continually be gained, WPL estimates the following costs of compliance at this point in time:

Reduction Requirement	**Capital Expenditure (million$)**	**Annual O&M**
30%	**35-47**	**13-29**
50%	**68-110**	**23-53**
90%	**Unknown***	**Unknown***

* At this point, there are too many uncertainties to provide a reasonable estimate of the costs associated with a 90% reduction requirement."

WPS – "Achieving the 30% level of reduction (Phase 1) would require controls on Weston 3 and Columbia 1. The added revenue requirements for a 30% reduction are approximately $14.8 million accumulated P.V. $155 million. Achieving a 50% reduction would also require controls
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on Columbia 2 and Pulliam 8 (Phase 2). The combined revenue requirements for Phase 1 and Phase 2 would be approximately 23.3 million/year or accumulated P.V. of $243 million. Achieving a 90% reduction has the following effects. Controls would have to be installed on Weston 3 and Columbia units 1 and 2. Pulliam units 5 through 8, Weston 1 and 2, and Edgewater 4 would all have to be retired. Depending on what the units are replaced with, natural gas or coal, the added real levelized revenue requirements would range from $103 to $107 million/year (2001 dollars). The accumulated P.V. = $1.08 to $1.12 billion. PSC

Dairyland – "Dairyland's current estimate is $20 million in **annual** capital and operating and maintenance expenses for a ten year period to install and operate control equipment and for disposal of solid waste in order to comply with phase one and phase two. The capital cost estimate includes $5.6 million for the retrofit of carbon injection equipment at Genoa 3 and John P. Madgett generating stations. It also includes capital projects in the fall of 2005 and spring of 2006 for the retrofit addition of fabric filter baghouse particulate control devices at the Genoa 3 ($29 million), and the John P. Madgett station ($36 million). Dairyland's estimates for this one-time replacement power cost associated with equipment construction is not included in the capital or O and M cost estimate stated above. Dairyland is not able at this time to provide any estimates of the cost of compliance for the third phase emissions cap at 10 percent of the baseline (90%)".

PROVISIONS IN THE PROPOSED RULES:

NR 446.06 Mercury reduction requirements for major utilities. Requires reduction of mercury emissions from an established baseline in three steps over a fifteen-year period. The reductions are at five-year intervals and don't commence until five years after promulgation. The first step requires a 30% reduction, the second reduction in ten years is 50% and the final reduction required is 90%.

COMMITTEE MEMBER INTERESTS:

Joe Shefchek – Alliant Energy
Revise to WUA proposal of 10% reduction in 5 years and 40% reduction in 10 years.
Add a provision that will allow for alignment with Federal MACT and multi-pollutant regulations.
Conduct review of variables affecting time to implement rule (i.e., outage schedules, PSC approvals, joint ownership consideration, design and equipment availability, etc..)
Develop an option in the rule that allows for multi-pollutant controls, considering what the potential total emissions reductions would be versus a Hg-only approach.
Revise language for "rule evaluation reports" to include periodic consideration of federal multi-pollutant bills or regulations to determine interaction with WI mercury rule in order to address rule compatibility.
The exact impact of mercury controls on other air pollutant emissions (such as NOx, SO2 and PM) is not well understood and currently the subject of several studies because there are no commercially proven technologies in operation. Carbon injection could potentially result in increased emissions of particulate. Fuel switching could reduce mercury but increase/change emission of other air pollutants. Construction permits for emissions changes resulting from NR 446 are not exempt and the timeframe necessary to complete permitting approval could be triggered). Alternatively, future controls for NOx and SO2 could impact mercury speciation ultimately affecting selection of the type of mercury control technology, possible stranding costs if what is initially installed for NR 446 becomes less significant (especially if PSD/NSR or dispersion modeling is effective. Consideration of a multi-emission approach is critical for long-

term planning regarding capital investments and shutdowns for construction to ensure energy reliability.

Annabeth Reitter – Stora Enso
Develop technical and economic basis for establishing controls and reduction levels to include electric rate impacts and environmental benefits analysis. Reduction requirements need to be consistent with Federal requirements.

Mark Yeager - ECCOLA
Instead of revising the rule to a more relaxed reduction level, write it for the best (cleanest) that new technology can implement. Committing to the highest standard earliest is also the most cost-effective for utilities to implement. Rather than conduct a review of variables, eliminate redundancy such as PSC involvement; (i.e., PSC having prejudiced themselves by defining their opinion before public hearings were concluded)
NR 446 should deal only with mercury. Much work could be done to clean up other pollutants with other rules yet to be revised.

Bill Skewes - WUA
(Issue No. 25 Relationship between early retirement and meeting rule provisions.) This refers to certification of reductions, but additional language is needed to ensure that Wisconsin utilities are credited for mercury emission reduction achieved prior to enactment of federal rules.

Marc Looze - WED
-Reduction requirements should be based on what is needed to protect public health; some physicians believe that there is no safe level of mercury in the environment.
-Many industries have reduced or eliminated their use of mercury.
-Since cleaner technologies for producing power are readily available, either in the form of new power plants or control technology retrofits; strong reductions should be mandated. The notion that utilities should only be required to reduce mercury emissions by 40% in 2012 is ludicrous. Technology exists today that could meet or exceed that reduction requirement. The 90% reduction does not go into effect until 2017 at the earliest, giving technology vendors and utilities many years to develop the most cost-effective mercury control for existing coal plants or to develop plans to build new and cleaner generation.
-WEPCO field tests and projections show that PAC + a fabric filter can achieve high reduction levels with little to no adverse impact on ash and to reflect federal bills, the timeline for reduction should be 2010. Federal bills, that include no trading, would mandate a Hg reduction of 90% well before 2010. In light of these issues, the 90% reduction timeline for WI should be 2010.
-The inclusion of a trading program in WI's rule only further emphasizes the need to stick with a 90% reduction requirement. With trading, utilities will likely never have make 90% reductions from their fleet of plants.
We would entertain a four pollutant compliance alternative (NOx, SO2, Hg, CO2) depending on the levels of reductions for each pollutant.

Ed Wilusz – WPC
We understand the cost impacts are among the issues that will be discussed, but for which no issue paper will be prepared. Even though there will be no issue paper prepared, compliance cost is an identified issue and this issue paper should include a discussion about how the reduction requirements relate to costs. We ask that this discussion include potential impacts on industrial energy users (see our public comments relating to cost impacts on the paper industry).

ADDITIONAL BACKGROUND:

The Natural Resources Board requested that the proposed rules should include the percentage reductions and a phased schedule for achieving the reductions and a methodology for determining baseline emission levels. In addition, when the Natural Resources Board authorized hearings on the proposed rules they also requested that public comment be sought on alternatives to the amount and schedule of mercury reductions. The following alternatives were offered for comment during public hearings:

1. Require a two-step reduction schedule, 25% by 2006 and 90% by 2010. If trading is allowed, require 90% mercury reductions by 2008.

2. Expand reduction requirement to include all utilities and government owned boilers with more than 10 pounds of mercury emissions in one year including chlor-alkali plants, medical waste incinerators, municipal waste incinerators and other significant sources.

3. Include a provision for the virtual elimination of mercury 20 years after rule promulgation.

4. Require a two-step reduction schedule, 10% by 2007 and 40% by 2012.

5. Allow for a multi-pollutant reduction alternative that would allow a major utility the opportunity to propose a multi-pollutant reduction program instead of achieving the mercury reduction requirements in the rules. Mercury reductions would still need to be an element of the proposal, which would also require a commitment to provide other environmental benefits beyond existing laws and rules. The proposal would also need to include a schedule to accomplish the alternative program. The alternative program would be subject to a public hearing.

6. Do not have a regulatory program. Implement a voluntary program.

Includes Issue No. 1 – Agreed schedule of reductions. Criteria for setting mercury reduction levels. Why do we need phased reductions? Also, includes Issue No. 7 – Multi-pollutant control options and Issue No. 20 - Review methodology for baseline determination. Also involves Issue No. 24 - What impact might the proposed rules have on the emissions of other pollutants? and Issue No. 25 Relationship between early retirement and meeting rule provisions.

The Technical Advisory Group is working to complete four briefs that relate to this issue scheduled for completion in April. This includes:

- Control Technologies and Options
- Activated Carbon Injection
- Multi-pollutant Control Option
- Control Summary

ALTERNATIVES:

1. Proceed with the proposed rules.

2. Implement a voluntary program.

3. Require a two-step reduction schedule, 10% by 2007 and 40% by 2012.

4. Require a two-step reduction schedule, 25% by 2006 and 90% by 2010. If trading is allowed, require 90% mercury reductions by 2008. Expand reduction requirement to include all utilities and government owned boilers with more than 10 pounds of mercury emissions in one year including chlor-alkali plants, medical waste incinerators, municipal waste incinerators and other significant sources. Include a provision for the virtual elimination of mercury 20 years after rule promulgation.

5. Include provision for a multi-pollutant reduction alternative that would allow a major utility the opportunity to propose a multi-pollutant reduction program instead of achieving the mercury reduction requirements in the rules. Mercury reductions would still need to be an element of the proposal, which would also require a commitment to provide other environmental benefits beyond existing laws and rules. The proposal would also need to include a schedule to accomplish the alternative program. The alternative program would be subject to a public hearing.

COMMITTEE RECOMMENDATIONS: